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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/339.199 06/24/99 NAKATAKE

F 21.1931/HJS

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MMC1/0420

EXAMINER

RAMSEY, K

ART UNIT

PAPER NUMBER

2879

DATE MAILED:

04/20/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.

09/339,199

Applicant(s)

NAKATAKE ET AL.

Examiner

Kenneth J. Ramsey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

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1. The disclosure is objected to because of the following informalities: the specification and claims contains incomplete sentences and/or errors of idiomatic English as follows: page 3, lines 18-20; page 4, lines 24-26; page 5, lines 16-17 and 25; page 12, line 21; page 14, lines 23-26; page 19, lines 18-20; page 20, lines 10-11; and other places.

Appropriate correction is required.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims require revision to clearly set forth the process steps using the active verb form and to remove errors of idiomatic nature. Some errors noted are as follows. In the preamble "A manufacturing method of a gas discharge panel" should be --A method of manufacturing ....-- . Claim 1, lines 5-6, "substrate onto another substrate", should be -- substrates, one upon the other, --. Claim 4, it is not understood how the separator walls are provided at this stage of the process. Claim 5, line 4, "sealant melted" is vague. Claims 6-7 are not clear as to the position of both the "spaces formed with said frames" and where "said spaces gathers". Claim 8, what are "tentatively fixing clips"? Claim 9, line 6, there is no clear antecedent for "said substrate" since two substrates are described and a third substrate is improperly recited; claim 9, lines 7-10 are vague; claim 9, line 13, "to press over the surfaces" is not clear; and claim 9, line 15, "is melt" makes no sense. Claim 10, line 4 is

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vague. Claim 11, second line from the bottom, "till said sealant to be melt" should be -- to melt said sealant--; and "hold", last line, should be --held--. Claim 12, line 3 from the bottom "another substrate" should be -- one of said substrates". Claim 14 is an incomplete sentence. Each of the claims should be reviewed to improve the idiomatic form and to use of the active verb form where necessary to a clear understanding of the claim.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 - 4, 11, 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka (6,189,579) in view of Tadashi et al (JP 09-251839) or Nagano et al (5,207,607), and Kimura (5,997,379). Tanaka discloses a process for the removal of impurities and filling of a gas into a previously sealed display device. Tadashi et al and Nagano et al each disclose a process in which the sealing of the periphery of a display panel, introduction of a fill gas and closing of the fill opening are carried out in a continuous process. Nagano et al column 7, lines 13-24 and Tadashi et al (section headed "Effect of the Invention" see machine translation) each teach making the space between the substrates precise (default value) by raising the pressure pressure of the vacuum furnace at the time of sealing the two panel substrates together. Kimura would have suggested that the same effect can be achieved by lowering the pressure inside the panel while the sealant is molten. It would have been obvious for

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one of ordinary skill in the art to combine a panel sealing process as in Nagano et al and Tadashi et al with a gas filling process as in Tanaka et al and to provide the degasing process while still at a high temperature. Since Tanaka must evacuate the panel to remove impurities, it would have been obvious to one of ordinary skill in the art, at the time of the claimed invention, to begin the evacuation step at the time of the sealing process to at the same time provide a pressure differential as suggested by Kimura. The motivation to combine these steps would be to shorten the process time while accomplishing all of the intended goals such as obtaining a desired spacing of the display panels and a high purity gas filling.

6. Claims 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka, Nagano et al or Tadashi et al, and Kimura as applied to claim 1 above, and further in view of Itoh et al (6,039,620). To carry out the process of Tanaka, as above modified by Nagano et al or Tadashi et al, and Kimura, wherein the substrates form a plurality of devices which are later divided as in Itoh et al would have been obvious to one of ordinary skill since it optimizes the production process.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka, Nagano et al and Kimura as applied to claim 1 above, and further in view of Kanagawa et al (5,921,837). The use of fixing clips to hold the alignment of the substrates while bonded in Tanaka as modified above merely involves an obvious mechanical expedient as shown by Kanagawa et al.

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8. Claims 5, 7, 10 and 13 would be allowable if rewritten or amended to be made self contained and to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.
9. Claims 15-26 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.
10. The following is a statement of reasons for the indication of allowable subject matter: Claim 5 is allowable since the prior art does not suggest the claimed process wherein, additionally, a barrier wall is provided to prevent an inward invasion of the melted sealant; Claims 7 and 10 are allowable since the prior art does not suggest the claimed processes thereof including connecting the evacuation tube to conduction pipes which are each located in a portion of the panel so as to be in close proximity to each other; Claim 13 is allowable since the prior art does not teach or suggest raising the pressure around the display panel at least once in the process of lowering the pressure before melting of the seal-glass layer. Claim 15 is allowable since the prior art does not teach or suggest the sequence of steps as recited therein.
11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dynka et al (5,697,825), figure 4, discloses a similar heating and evacuation process for a field emission display device. Itoh (5,564,958) discloses gas purging of a display device.

Any inquiry concerning this communication should be directed to Kenneth J. Ramsey at telephone number 703-308-2324.

*Kenneth J. Ramsey*  
**KENNETH J. RAMSEY  
PRIMARY EXAMINER**